



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/616,495	07/09/2003	Jordan T. Bourilkov	08935-292001 / M-5028	9718

26161 7590 09/28/2006

FISH & RICHARDSON PC
P.O. BOX 1022
MINNEAPOLIS, MN 55440-1022

EXAMINER

PARSONS, THOMAS H

ART UNIT PAPER NUMBER

1745

DATE MAILED: 09/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/616,495

Applicant(s)

BOURILKOV ET AL.

Examiner

Thomas H. Parsons

Art Unit

1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 26-35 is/are pending in the application.
- 4a) Of the above claim(s) 5-25 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 31-35 is/are allowed.
- 6) ☒ Claim(s) 1-4 and 26-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 July 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Amendment

This is in response to the Amendment filed 31 July 2006.

DETAILED ACTION

Drawings

1. The objection to the drawings as failing to comply with 37 CFR 1.84(p)(5) because they include reference character(s) not mentioned in the description has been **withdrawn** in view of Applicants' Amendment.
2. The objection to the drawings as failing to comply with 37 CFR 1.84(p)(5) because they do not include reference sign(s) mentioned in the description has been **withdrawn** in view of Applicants' Amendment.
3. The objection to the drawings as failing to comply with 37 CFR 1.84(p)(4) because the same reference character has been used to designate different parts has been **withdrawn** in view of Applicants' Amendment.

Specification

4. The objection to the disclosure because of minor informalities has been **withdrawn** in view of Applicants' Amendment.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

Art Unit: 1745

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1 and 3-4 **stand** rejected under 35 U.S.C. 102(b) as being anticipated by Sainsbury et al. (6,104,162).

Claim 1: Sainsbury et al. in Figures 1, 2 and 6 discloses an adapter comprises:

a member (15) including appropriate mating fittings to allow the member to connect to a interconnect (20) that interfaces a battery or a source of fuel (41) to a fuel cell system for powering an electronic device (10) (col. 3: 25-col. 4: 26, and col. 5: 3-40).

Claim 3: Sainsbury et al. in Figure 3 disclose electronics to convert power incident at an input of the adapter to an output power level at the pair of spaced battery terminals (col. 4: 27-col. 5: 2).

Claim 4: Sainsbury et al. in Figures 1 and 2 disclose a wire (13 or 14) coupled to an electronic plug (11 or 12).

Claim Rejections - 35 USC § 103

7. The rejection of claim 2 under 35 U.S.C. 103(a) as being unpatentable over Sainsbury et al. as applied to claim 1 above, and further in view of Bean et al. (6,955,863) has been **withdrawn** in view of Applicants' Amendment.

Double Patenting

11. The provisional rejection of claims 1-3 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-7 of copending Application No. 10/462,077 has been **withdrawn**.

Response to Arguments

8. Applicant's arguments filed 31 July 2006 regarding claims 1, and 3-4 have been fully considered but they are not persuasive.

The Applicants' argue, "Claim 1 is allowable over Sainsbury because Sainsbury teaches interchangeability of fuel cells and battery packs. Sainsbury discloses: "FIG. 6 shows a pictorial description of a preferred embodiment of the multifunctional battery module 19 including battery unit 41 consisting of one or a combination of battery and fuel cell units which individually or together provide complementary power to the tool." However, applicant's invention is directed to "a member including appropriate mating fittings to allow the member to connect to a battery or a source of fuel for a fuel cell system." Thus, Sainsbury does not depict at least the member including appropriate mating fittings connect to a source of fuel for a fuel cell system. While the examiner can argue that inherently Sainsbury can provide mating fittings to connect to a source of fuel for a fuel cell system, claim 1 requires "a member including appropriate mating fittings to allow the member to connect to a battery or a source of fuel for a fuel cell system. Sainsbury does not show such a member to allow connection to a battery or a source of fuel.

In response, Claim 1 recites "...to connect to a battery or a source of fuel for a fuel cell system." The recitation has been construed to mean that the member can be connected to either a

Art Unit: 1745

battery or a fuel source for a fuel cell. Sainsbury in Figures 1, 2 and 6 show an adapter (35) comprising a member (5) including appropriate mating fitting (11 or 12) to connect to a battery and/or a fuel cell unit. The adapter of Sainsbury interfaces between a drill, and a battery and/or a fuel cell unit (as opposed to the fuel source).

(New) DETAILED ACTION

Claim Rejections - 35 USC § 112

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claims 3 and 26-30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 3 recites the limitation "the pair of spaced battery terminals" in lines 2 and 3.

There is insufficient antecedent basis for this limitation in the claim.

Claim 26 recites "the interface" in lines 5 and 6. There is insufficient antecedent basis for this limitation in the claim. Claims 27-30 are rejected because they dependent from claim 26.

Claim 28 recites "the circuit" and "the interconnect" in lines 1 and 2. There is insufficient antecedent basis for these limitations in the claim.

Art Unit: 1745

Claim Objections

11. Claim 29 is objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim should refer to a preceding claim. See MPEP § 608.01(n).

Accordingly, the claim 29 not been further treated on the merits.

Claim 29: suggest inserting “wherein” before “the circuit”.

Claim Rejections - 35 USC § 102

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

13. Claims 1-4 are rejected under 35 U.S.C. 102(e) as being anticipated by Bourilkov et al. (US 2004/0253500).

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention “by another,” or by an appropriate showing under 37 CFR 1.131.

Claim 1: Bourilkov et al. in Figure 2 disclose an adapter comprises:

Art Unit: 1745

a member (20) including appropriate mating fittings (32, 34) to allow the member to connect to a battery or a source of fuel for a fuel cell system for powering an electronic device. See paragraphs [0021]-[0022].

Claim 2: Bourilkov et al. in Figure 2 disclose that the appropriate mating fittings (32, 34) on the member (20) include a pair of spaced battery terminals (34) and an aperture (32) to receive an ingress port on a fuel cell interconnect. See paragraphs [0021]-[0022].

Claim 3: Bourilkov et al. in Figures 2, 5 and 6 disclose that the member includes electronics (24) to convert power incident at an input of the adapter to an output power level at the pair of spaced battery terminals (34). See paragraphs [0021]-[0022] and [0031]-[0033].

Claim 4: Bourilkov et al. in Figure 2 disclose that the member (20) includes a wire coupled to an electronic plug. See paragraphs [0021]-[0022].

Allowable Subject Matter

14. Claims 26-30 would be allowable over the prior art references of record if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

15. Claims 31-35 are allowable over the prior art references of record.

Reasons for Indicating Allowable Subject Matter

16. The following is a statement of reasons for the indication of allowable subject matter:

The claimed invention is directed towards

Art Unit: 1745

A hybrid power supply comprises: an adapter comprising: a member including appropriate mating fittings to allow the member to connect to a battery or a source of fuel for a fuel cell system for powering an electronic device and; a switching type DC/DC boost type converter coupled to the interface and which receives energy from a fuel cell or from an external battery connected to the interface, and which is arranged to deliver the energy to a rechargeable cell, the DC/DC converter configured to provide substantially constant current drain from the fuel cell, and

A hybrid power supply comprising:

a fuel cell;

an adapter between the fuel cell and a fuel cartridge or external battery, the adapter comprising: a member including appropriate mating fittings to allow the member to connect to a battery or a source of fuel for a fuel cell system for powering an electronic device; and a switching type DC/DC boost type converter that receives energy from the fuel cell or an external battery connected to the interface and is arranged to deliver the energy to a rechargeable cell; a fuel cell current sensor/comparator, included in a feedback control loop disposed about the DC/DC converter, which controls in part operation of the converter to provide constant current discharge on the fuel battery side of the hybrid power supply.

The prior art references of record neither teach no suggest the claimed hybrid power supply.

Art Unit: 1745

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas H. Parsons whose telephone number is (571) 272-1290. The examiner can normally be reached on M-F (7:00-4:30) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pat Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Thomas H Parsons
Examiner
Art Unit 1745


PATRICK JOSEPH RYAN
SUPERVISORY PATENT EXAMINER